

Work Order ID 67176

Page 1

Wednesday, March 09, 2011 12:58:33 PM

Item ID: D350-636-015

Accept



Setup Start



Revision ID:

Stop



Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 3/9/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 3/16/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

Date: 11-03-9

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D4168

A

IIN-D350-636

H

100

0.00



DC

DOCUMENT CONTROL

0.00

Memo

Document Control

Photocopy blue file and type labels per PPP D350-636-015 CHG 001

N/A

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110	Skidtubes	0.00							
Skidtubes	Memo	0.00							
Skidtubes	1- Pick D2600-3-Bent								
	2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg D4168								
	3- Drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500", deburr.								
	4- Locate DT8330 off of blade fitting bolt holes and drill pilot holes for blade fitting								
	5- Drill fwd step holes using DT9616. Ensure proper positioning. All holes as per dwg D4168.								
	6- Drill pilot holes as per Dwg D4168 sheet 4 (D4168-1 details). Drill using drill Jig DT8150 & DT8863A for first side only DT8863B for second side (detail B)								
	7- Clecko DT8863B on second side of tube and drill pilot holes for detail B. ***SECOND SIDE***								
	8- Drill most FWD wearplate hole using DT9678 locating off of 66.54" hole.								
	9-Open up holes for Detail B to 0.375" (4 holes per side) and blade fitting location holes to 0.500" (total of 4 holes per side) as per dwg D4168. Open up holes for ground handling and detail C to 0.500" (8 holes per side)								
	10-Open up holes of Detail A to 0.297" (total of 2 holes per side) and 2.40" (total of 1 hole per side)								



BB

11/03/16

BB

11/03/28

BB 11/03/29

BB

11/03/28

201

11/03/28

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H:\FORMS\Quality Assurance\approved QA\NCRWO RevE

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Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

160

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Open up holes of Detail C and ground handling to 0.625" (total of 8 holes per side)
as per dwg D4168.

2-Open up holes of Detail B to 0.750" (total of 4 holes per side)
as per dwg D4168.

3- Open float hole to 0.500" (4 per side)

Open wearplate holes to size as per dwg (4 holes per sides)

4-Chamfer holes of Detail B, C, ground handling and float holes per dwg D4168
(welding instructions on sheet 8)

5-Deburr and blow out all chips from inside of tube

6- Prepare tube for welding, remove alodine as required.

7-Bond web D2739 in place as per QSI 015

A/R ☐ ☐ ☐ Sikaflex-291

batch: 11648 ☐ ☐ ☐

exp. date: 12/01/15

8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D4168 and D4170-1
& QSI004

(welding instructions on sheet 8)

A/R ☐ ☐ ☐ Aluminum Rod

batch: M116577

9- At section AJ-AJ drill out x-bolt spacer to 0.404"

BE 11/04/05

BE 11/04/05
BB 11/04/05

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Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190 HandFinish Hand Finishing	Pressure Wash per QSI005 4.3 Memo Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.	0.00 0.00				1	BR	11-4-6	
200 Powdercoat Powder Coating	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum Memo START TIME: 9:15 OVEN TEMPERATURE: 320° FINISH TIME: 9:45	0.00 0.00				1	BR	11-4-6	
210 QC Quality Control	QC3- Inspect Part Finish Memo ✓ Inspect for foreign object per QSI 024	0.00 0.00				1	g	11/04/06	

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Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
220		0.00							
	HandFinishing								
HandFinish	Memo	0.00							
Hand Finishing	T- Install inserts as per Dwg D4168								
230		0.00							
	HandFinishing								
HandFinish	Memo	0.00							
Hand Finishing	1-Inspect for Foreign Objects								
	2-Spray inside of tube with "LPS-3" batch: <u>N/A</u>								
	3-Install blade fitting D3488-041, wearshoes and ground handling hardware as per dwg D4168 SIKA FLEX 241 BATCH: <u>N116918</u> EXP DATE: <u>12/01</u>								
	4-assemble o'ring to plug as per dwg D3492 and apply o'ring lube A/R 55-o'ring lube batch: <u>N1114189</u>								
	5-Coat all exposed fasteners with "LPS Procyon" batch: <u>N1114596</u>								

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




Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240  QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00							
250  Packaging Packaging	Pick Kit Memo	0.00 0.00							
260  QC Quality Control	QC4- 100% Inspect kits for completeness Memo *****ensure antiseize is on AN8C21A bolts*****	0.00 0.00							

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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270	Packaging	0.00							
Packaging									
Packaging									
	Memo	0.00							
	Identify and pack for shipping as per PPPD350-636-015								
	Location:								
	PPP rev:								
280	QC21- Final Inspection - Work Order Release	0.00							
QC									
Quality Control									
	Memo	0.00							

PP 67319

11/4/08

11/4/08

MK
11-04-06

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

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Page 1

Work Order ID: 67176

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Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 3/9/2011


Required Date: 3/16/2011

Start Qty: 1.00


Required Qty: 1.00

Comments: IPP rev:A 10.09.28 new issue DD verf:EC


Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

AN3C34A  BOLT		Purchased	No			230	Each	70.0000	1	1		11/04/06	
--	--	-----------	----	--	--	-----	------	---------	---	---	--	----------	--

Location	Loc Qty	Loc Code
ST353	70	M116050
116003	20	
116075	50	

AN3C36A  BOLT		Purchased	No			230	Each	40.0000	4	4		11/4/05	
--	--	-----------	----	--	--	-----	------	---------	---	---	--	---------	--

Location	Loc Qty	Loc Code
FG	10	
116590	10	
ST353	30	
109771	6	
116381	2	
116590	22	

AN3C37A  BOLT		Purchased	No			230	Each	81.0000	1	1		11/6381	
--	--	-----------	----	--	--	-----	------	---------	---	---	--	---------	--

Location	Loc Qty	Loc Code
ST353	1	
114801	1	
ST354	80	
116874	30	
117010	50	

W/O:		WORK ORDER CHANGES						
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Start Date: 3/9/2011

Required Date: 3/16/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C42A

Purchased No

230 Each

61.0000

1 1



BOLT



M106176 SP

Location

Loc Qty

Loc Code

ST354

61

106176

61

D3873-1

Manufactured No

230 Each

180.0000

7 7



Bushing



M1104106

Location

Loc Qty

Loc Code

ST088

180

57615

3

62197

8

64567

69

64760

100

D4154-041

Manufactured No

230 Each

2.0000

1 1



Wearplate Assembly



M1104106

Location

Loc Qty

Loc Code

FG

2

65092

2

D4170-1

Manufactured No

230 Each

38.0000

4 4



Bushing



BC 11/04/06

Location

Loc Qty

Loc Code

LG

38

62251

4

65912

23

66158

11

4

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Start Date: 3/9/2011

Required Date: 3/16/2011

Start Qty: 1.00

Required Qty: 1.00

D4171-1 Manufactured No

230 Each

18.0000

1

1



Bushing



36 11/04/06

Location

Loc Qty

Loc Code

ST135

18

1362710

xl

65646

18

MS21043-3

Purchased No

230 Each

1,156.000

5

5



36 11/04/06

Nut

Location

Loc Qty

Loc Code

FG

76

103691

76

ST301

1080

112314

1080

x5

NAS1149C0363R

Purchased No

230 Each

5,076.000

9

9



36 11/04/06

Washer

Location

Loc Qty

Loc Code

ST297

5076

113524

33

113889

139

114742

4904

x9

NAS1515H3L

Purchased No

230 Each

300.0000

4

4



36 11/04/06

WASHER

Location

Loc Qty

Loc Code

FG

40

102472

40

ST277

260

111819

34

113362

226

yd

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Start Date: 3/9/2011

Required Date: 3/16/2011

Start Qty: 1.00

Required Qty: 1.00

AN960JD816

Purchased No

250 Each

85.0000

2

2



1/2" washer, Alum



11/04/06

Location

Loc Qty

Loc Code

ST348

85

106043

85

X2

D2744

Manufactured No

110 Each

55.0000

1

1



Cap



BB 11/03/29

Location

Loc Qty

Loc Code

LG

29

65086

29

ST

26

62715

26

/

D2600-3-BENT

Manufactured No

110 Each

6.0000

1

1



Extrusion Bent



Location

Loc Qty

Loc Code

LG

6

61634

2

62764

1

64434

3

58480
66875

1

(1)

BB 11/03/06

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Start Date: 3/9/2011

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Start Qty: 1.00

Required Qty: 1.00

D2743

Manufactured No

160 Each

122.0000 8 8



Crossbolt Spacer



BE 11/04/05

Location

Loc Qty

Loc Code

LG	122	
50281	10	
57953	2	
59111	10	
61844	16	
64003	84	

D2739

Manufactured No

160 Each

4.0000 1 1



350 I Beam



BE 11/04/04
B 66987 (X)

Location

Loc Qty

Loc Code

LG	4	
64448	4	

D3490-3

Manufactured No

160 Each

35.0000 4 4



Cross Bolt Spacer



BE 11/04/05

Location

Loc Qty

Loc Code

LG	35	
60294	1	
63556	24	
64006	10	

D3490-1

Manufactured No

160 Each

61.0000 4 4



Cross Bolt Spacer



BE 11/04/05

Location

Loc Qty

Loc Code

LG	61	
59424	3	
62450	48	
64005	10	

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Required Date: 3/16/2011

Start Qty: 1.00

Required Qty: 1.00

ALS4-1032-225

Purchased

No

230

Each

3,809.000

4

4



Insert



Handwritten: ul 110x106

Location

Loc Qty

Loc Code

PK011

3809

110768

3809

D3492-041

Manufactured

No

230

Each

77.0000

8

8



Plug Assembly



Handwritten: ul 110x106

Location

Loc Qty

Loc Code

FP013

77

Handwritten: B66937

59114

1

Handwritten: x8

62210

3

63994

29

65068

44

AN8C35A

Purchased

No

230

Each

59.0000

1

1



BOLT



Handwritten: ul 110x106

Location

Loc Qty

Loc Code

ST345

25

116874

25

ST346

34

114442

5

115188

5

115960

24

Handwritten: y1

Wednesday, March 09, 2011 12:58:42 PM

Shop Packet Print

Page 6

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Wednesday, March 09, 2011 12:58:42 PM

Page 7

Work Order ID: 67176



Parent Item: D350-636-015



Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 3/9/2011

Required Date: 3/16/2011

Start Qty: 1.00

Required Qty: 1.00

D3488-041

Manufactured No

230 Each

16.0000

1

1



Blade Fitting Assembly, LH



Handwritten: 11/10/06

Location

Loc Qty

Loc Code

FG008

10

62002

10

FP18

6

Handwritten: X1

61689

6

AN6C44A

Purchased No

230 Each

89.0000

4

4



BOLT



Handwritten: 11/10/06

Location

Loc Qty

Loc Code

FG

2

103964

2

ST344

87

111649

2

114653

1

115936

34

116874

50

Handwritten: X1

MS21083C8

Purchased No

230 Each

57.0000

1

1



NUT



Handwritten: 11/10/06

Location

Loc Qty

Loc Code

ST303

57

113845

5

114934

3

115594

4

115884

25

Handwritten: X1

117010

20

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Page 7

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Wednesday, March 09, 2011 12:58:42 PM

Page 8

Work Order ID: 67176

Parent Item: D350-636-015

Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 3/9/2011

Required Date: 3/16/2011

Start Qty: 1.00

Required Qty: 1.00

D3631-1 Manufactured No

230 Each

228.0000 8 8



Washer



M 1104106

Location

Loc Qty

Loc Code

ST072

228

63647

128

66959

100

AN960C10L NAS1149C0332 Purchased No

230 Each

61.0000 4 4

R



washer



M 1104106

Location

Loc Qty

Loc Code

ST297

61

107534

59

108246

2

D2745 Manufactured No

230 Each

105.0000 8 8



Bushing



M 1104106

Location

Loc Qty

Loc Code

ST021

105

52311

5

59112

4

63315

96

AN960C816L Purchased No

230 Each

0.0000 1 1



WASHER

* NAS 1149C08332R / M 114915



(x1) M 1104106

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Page 8

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Wednesday, March 09, 2011 12:58:42 PM

Page 9

Work Order ID: 67176



Parent Item: D350-636-015



Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 3/9/2011

Required Date: 3/16/2011

Start Qty: 1.00

Required Qty: 1.00

D3492-043

Manufactured No

230 Each

125.0000

8

8



Plug Assembly



all 11/04/06 PTO →

Location

Loc Qty

Loc Code

FP

2

54682

2

FP013

123

59117

1

59190

4

63996

2

65070

16

66150

20

66931

80

x8

AN3C6A

Purchased No

230 Each

327.0000

4

4



BOLT



all 11/04/06

Location

Loc Qty

Loc Code

ST351

327

111982

102

116419

75

116549

50

116704

100

x4

MS21043-6

Purchased No

230 Each

538.0000

4

4



NUT



all 11/04/06

Location

Loc Qty

Loc Code

ST301

538

112314

538

x4

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Page 9

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
11/04/06	230	Assemble with D 2594-3 / B 65518 "O" Rings	JE	11/04/06	8			
11/04/06	230	Assemble with NAS 1611-013 / M 117291	JE	11/04/06	8			

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Wednesday, March 09, 2011 12:58:43 PM

Page 10

Work Order ID: 67176



Parent Item: D350-636-015



Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 3/9/2011

Required Date: 3/16/2011

Start Qty: 1.00

Required Qty: 1.00

D3493-1

Manufactured No

250 Each

28.0000

2 2



Washer



[Handwritten signature]

Location

Loc Qty

Loc Code

ST062

28

62677

28

62677

MS21083C8

Purchased No

250 Each

57.0000

2 2



NUT



[Handwritten signature]

Location

Loc Qty

Loc Code

ST303

57

113845

5

114934

3

115594

4

115884

25

117010

20

11740

AN8C21A

Purchased No

250 Each

67.0000

2 2



BOLT



[Handwritten signature]

Location

Loc Qty

Loc Code

ST345

67

113558

1

114653

2

115723

4

116381

60

116381

Wednesday, March 09, 2011 12:58:43 PM

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Page 10

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Page 11

Wednesday, March 09, 2011 12:58:43 PM

Work Order ID: 67176



Parent Item: D350-636-015



Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 3/9/2011

Required Date: 3/16/2011

Start Qty: 1.00

Required Qty: 1.00

D2741

Manufactured No

250

Each

77.0000

1

1



Blade, 350 Skidtube



Location

Loc Qty

Loc Code

ST466

77

60210

4

61341

33

63589

40

61341

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Page 11

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D4168-041	350 SKIDTUBE ASSEMBLY, LH
	X			D4168-042	350 SKIDTUBE ASSEMBLY, RH
		X		D4168-043	350 SKIDTUBE ASSEMBLY, LH
			X	D4168-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
8	8	8	8	D3631-1	WASHER
7	7	7	7	D3873-1	BUSHING
1	1	1	1	D4154-041	WEARPLATE ASSEMBLY
1				D4168-1	SKIDTUBE WELDMENT, LH
	1			D4168-2	SKIDTUBE WELDMENT, RH
		1		D4168-3	SKIDTUBE WELDMENT, LH
			1	D4168-4	SKIDTUBE WELDMENT, RH
4	4	4	4	D4170-1	SPACER
1	1	1	1	D4171-1	BUSHING
4	4	4	4	ALS4-1032-225	INSERT
4	4	4	4	AN3C6A	BOLT
1	1	1	1	AN3C34A	BOLT
4	4	4	4	AN3C36A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
9	9	9	9	AN960C10	WASHER (OR NAS1149CO363R)
4	4	4	4	AN960C10L	WASHER (OR NAS1149CO332R)
1	1	1	1	AN960C816L	WASHER (OR NAS1149CO832R)
5	5	5	5	MS21043-3	NUT
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 67174

AP 11-03-9

GENERAL NOTES:

- 1) MATERIAL: MAKE D4168-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- 2) FINISH:
CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: D4168-041/-042/-043/-044 = 32.3 LBS
- 8) WELD PER DART QSI 004
- 9) FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- 10) COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER.
- 11) SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- 12) SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

RELEASED
2010-09-15

A	NEW ISSUE	DESCRIPTION	SC	10.08.09
REV.			BY	DATE
DESIGN	SC	DART AEROSPACE USA, INC.		
DRAWN	SC	PORT HADLOCK, WA		
CHECKED		DRAWING NO.	REV. A	
MFG. APPR.		D4168	SHEET 1 OF 11	
APPROVED		TITLE	SCALE	
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS	
DATE	10.08.09	COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.		

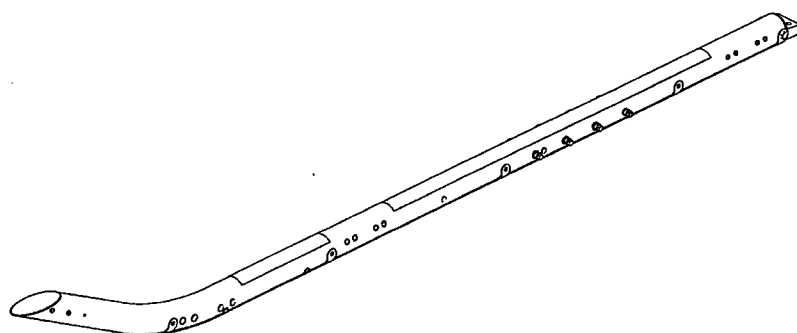
W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

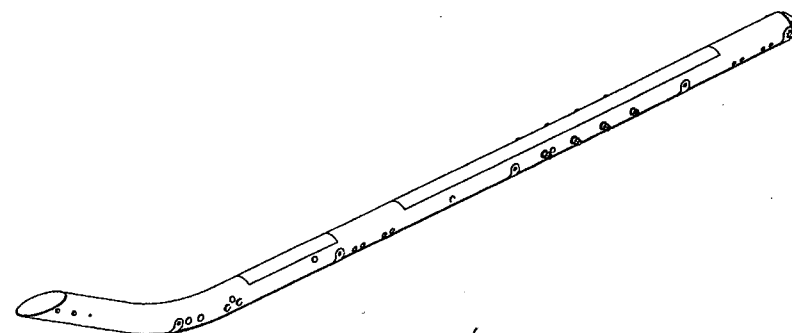
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D4168-041 350 SKIDTUBE ASSEMBLY, LH



D4168-042 350 SKIDTUBE ASSEMBLY, RH

Doc 1176

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2010-09-15
JW

DESIGN	SC	DART AEROSPACE USA, INC.	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>[Signature]</i>	D4168	SHEET 2 OF 11
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	350 SKIDTUBE ASSEMBLY	NTS
DATE	10.08.09	<small>COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESSED CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED TO ANY OTHER PERSON OR ENTITY WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

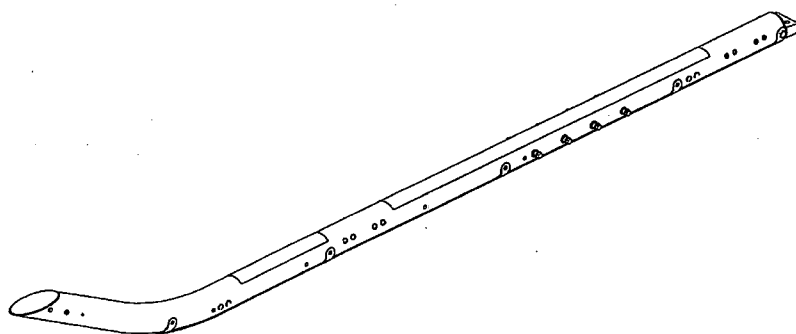
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

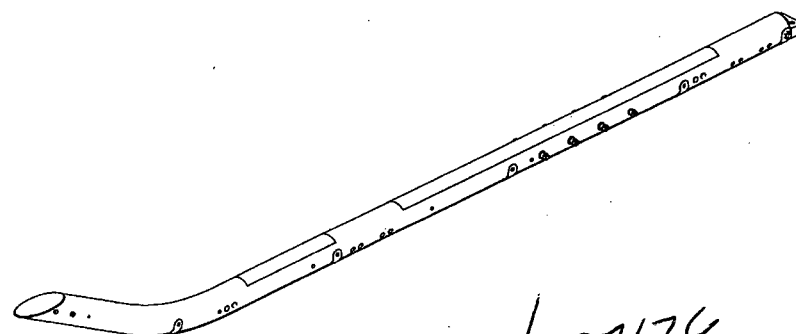
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D4168-043 350 SKIDTUBE ASSEMBLY, LH



D4168-044 350 SKIDTUBE ASSEMBLY, RH

WLOG 2124

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2010-09-15

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CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>[Signature]</i>	D4168	SHEET 3 OF 11
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	350 SKIDTUBE ASSEMBLY	NTS
DATE	10.08.09	<small>COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

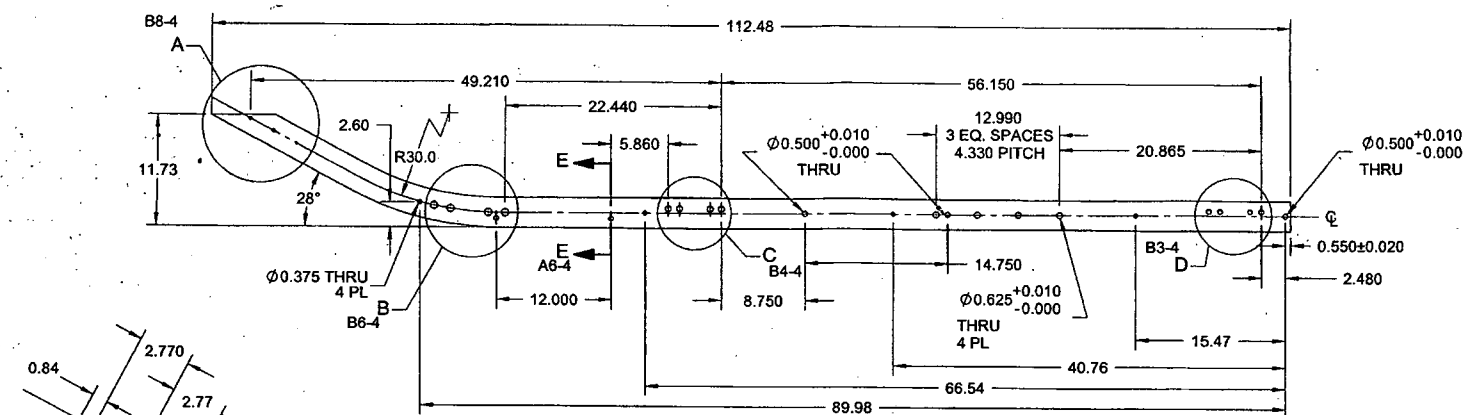
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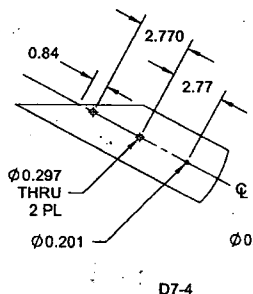
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

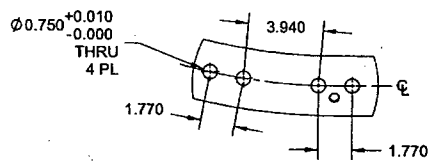
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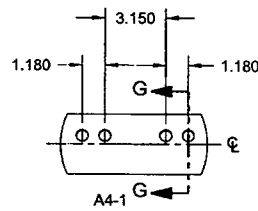
D4168-1 LH SKIDTUBE



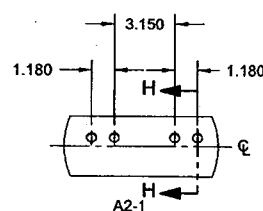
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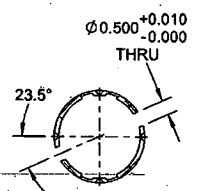
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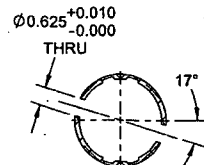
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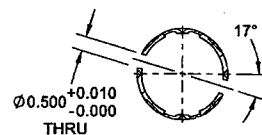
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SCALE 2X



SECTION E-E
SCALE 3X, 2 PL



SECTION G-G
SCALE 3X, 4 PL



SECTION H-H
SCALE 3X, 4 PL

u6c2174

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DESIGN	SC	DART AEROSPACE USA, INC.	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>[Signature]</i>	D4168	SHEET 4 OF 11
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	350 SKIDTUBE ASSEMBLY	NTS
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W/O:		WORK ORDER CHANGES						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8

7

6

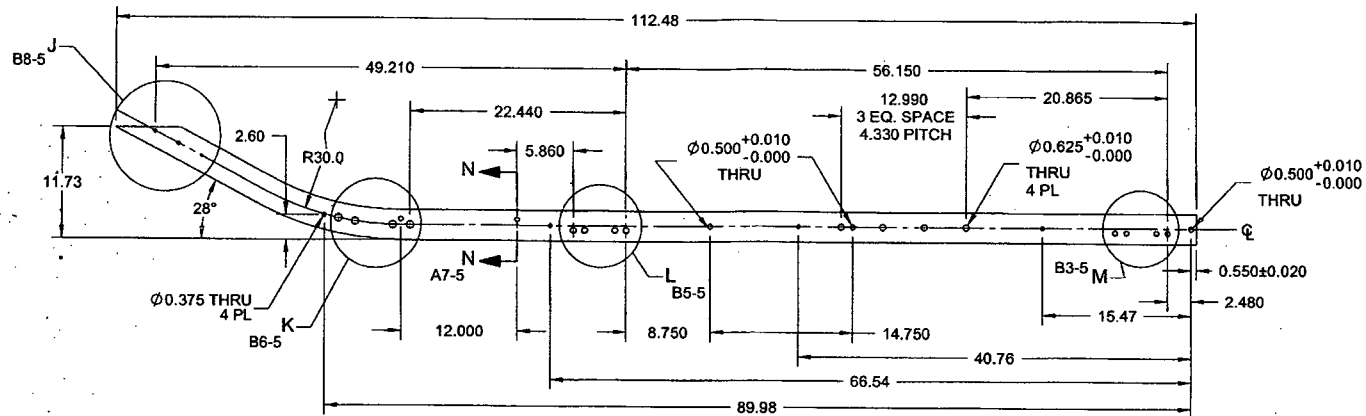
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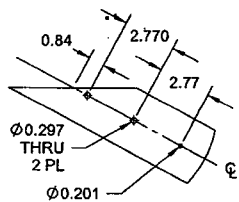
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2

1

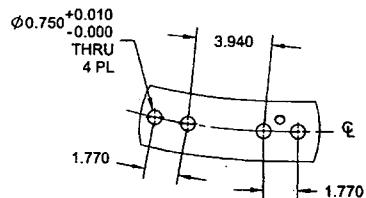


D4168-2 RH SKIDTUBE



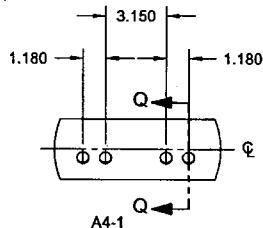
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D8-5



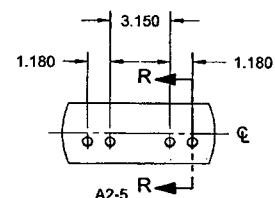
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C7-5



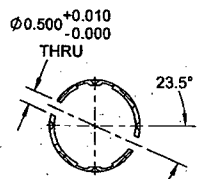
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D5-5



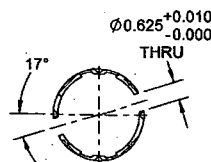
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C3-5



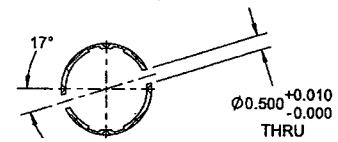
SECTION N-N
SCALE 3X, 2 PL

C6-5



SECTION Q-Q
SCALE 3X, 4 PL

B5-5



SECTION R-R
SCALE 3X, 4 PL

B3-5

DESIGN	SC	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
DRAWN	SC		
CHECKED	SC	DRAWING NO. D4168	REV. A
MFG. APPR.			SHEET 5 OF 11
APPROVED		TITLE	SCALE
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS
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u/c 67174

RELEASED
2010-09-15

MD

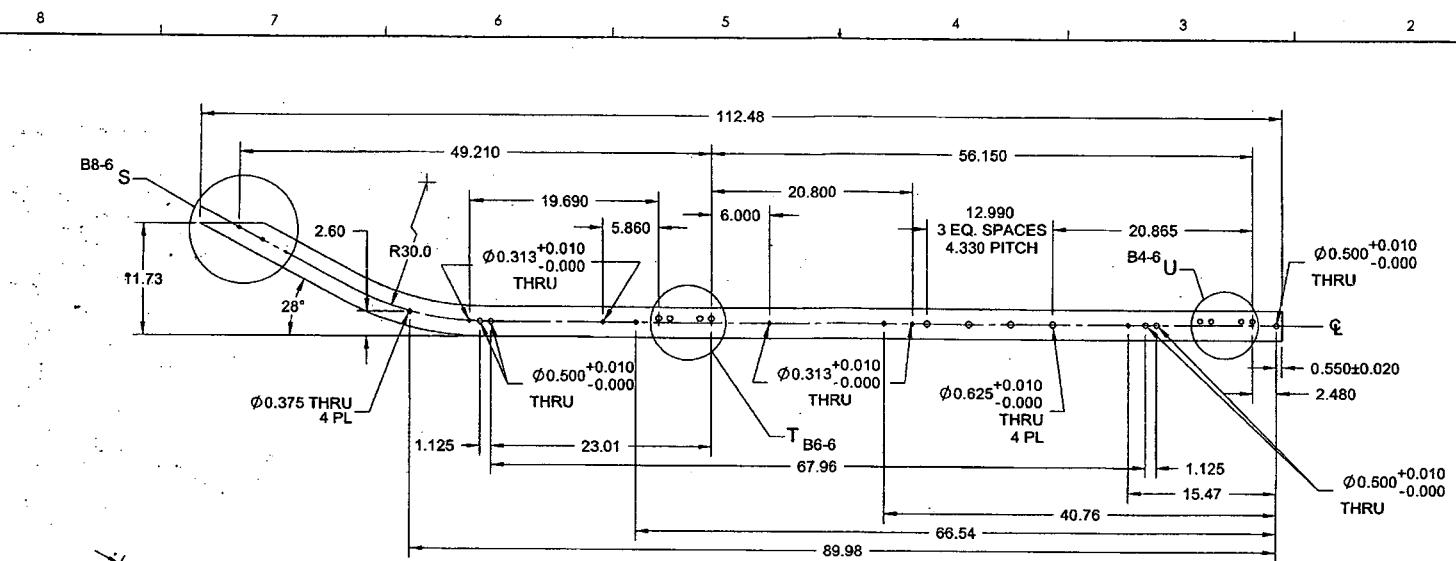
W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

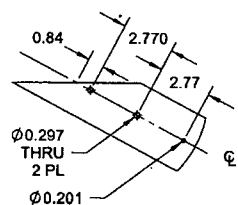
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

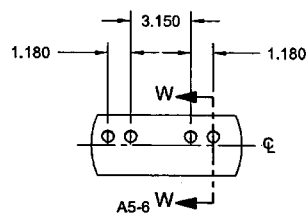
NOTE: Date & initial all entries



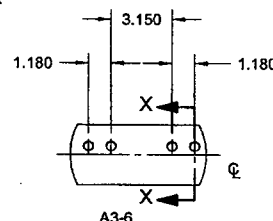
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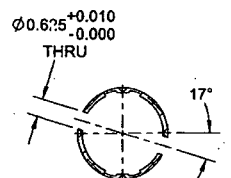
DETAIL S
SCALE 2X



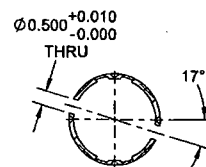
DETAIL T
SCALE 2X



DETAIL U
SCALE 2X



SECTION W-W
SCALE 3X, 4 PL



SECTION X-X
SCALE 3X, 4 PL

w/loc 7124

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2010-09-15

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8 7 6 5 4 3 2 1

D

C

B

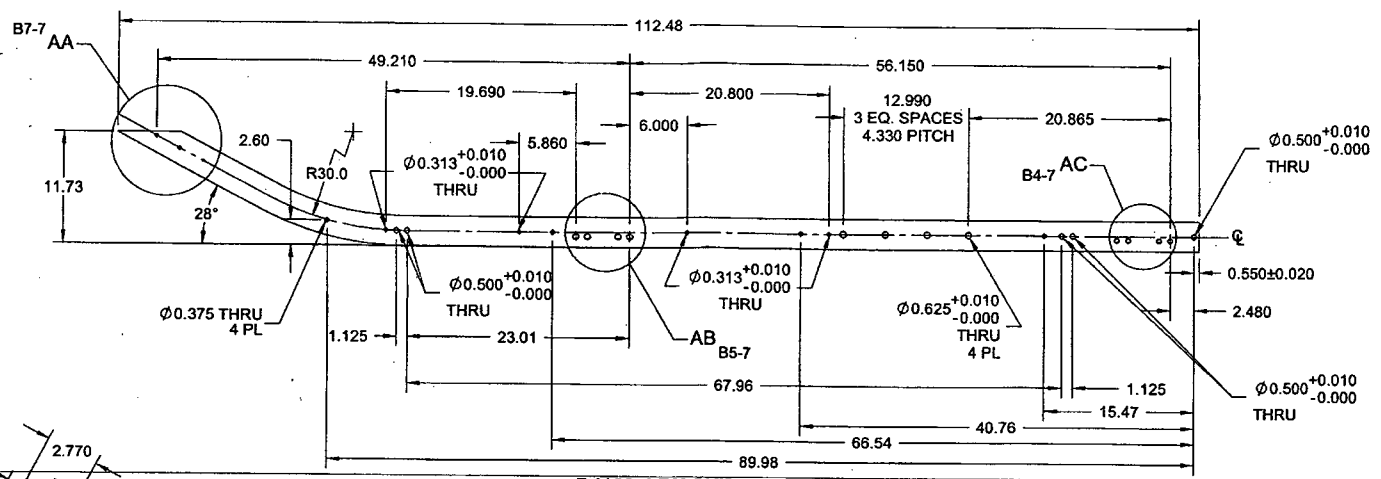
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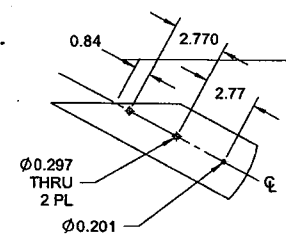
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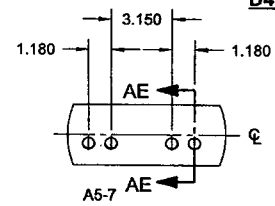
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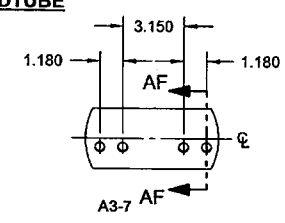
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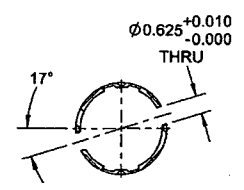
DETAIL AA
SCALE 2X



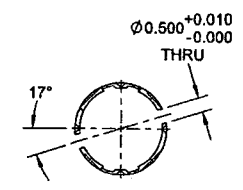
DETAIL AB
SCALE 2X



DETAIL AC
SCALE 2X



SECTION AE-AE
SCALE 3X, 4 PL



SECTION AF-AF
SCALE 3X, 4 PL

u/062174

RELEASED
2010-02-15

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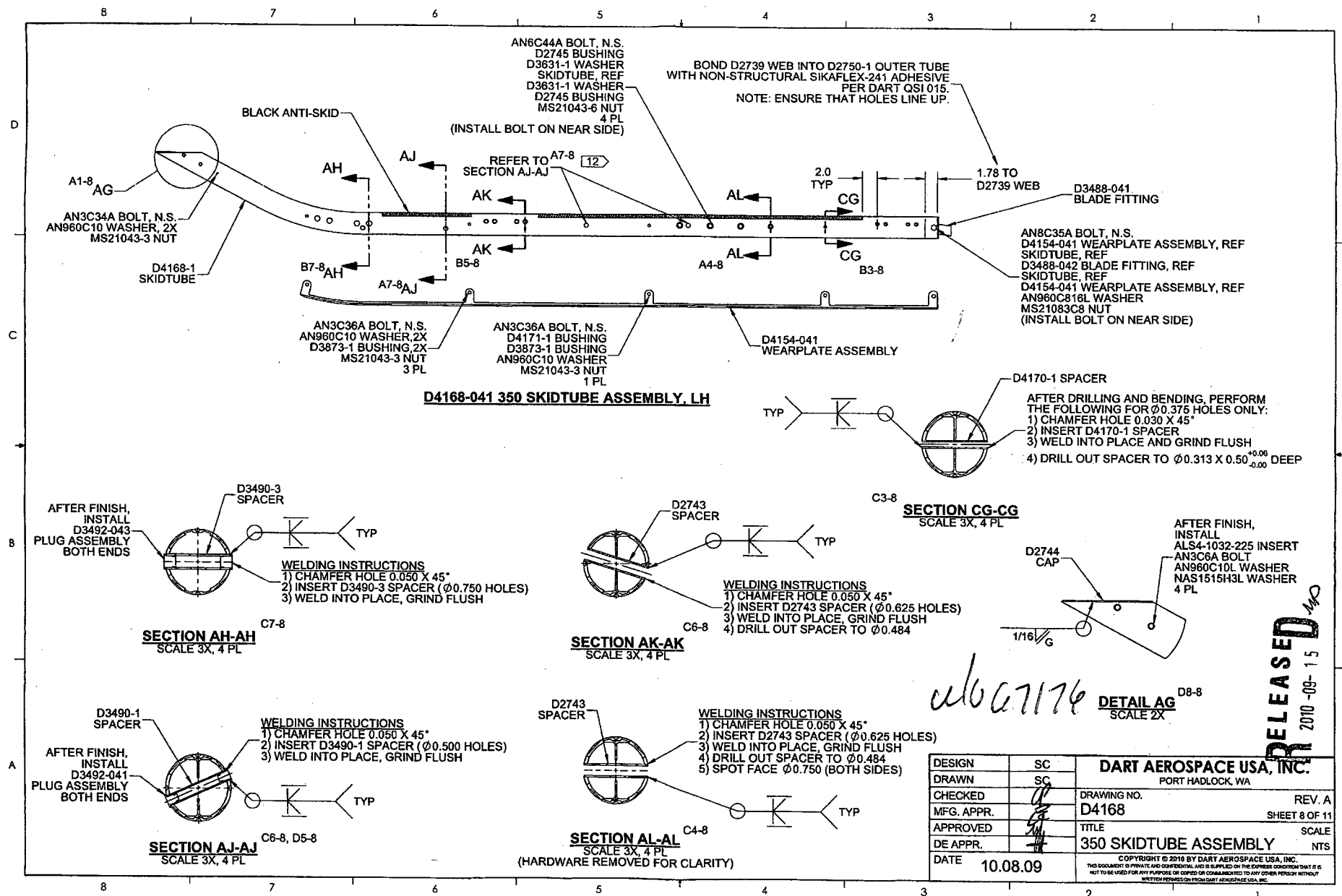
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NOTE: Date & initial all entries



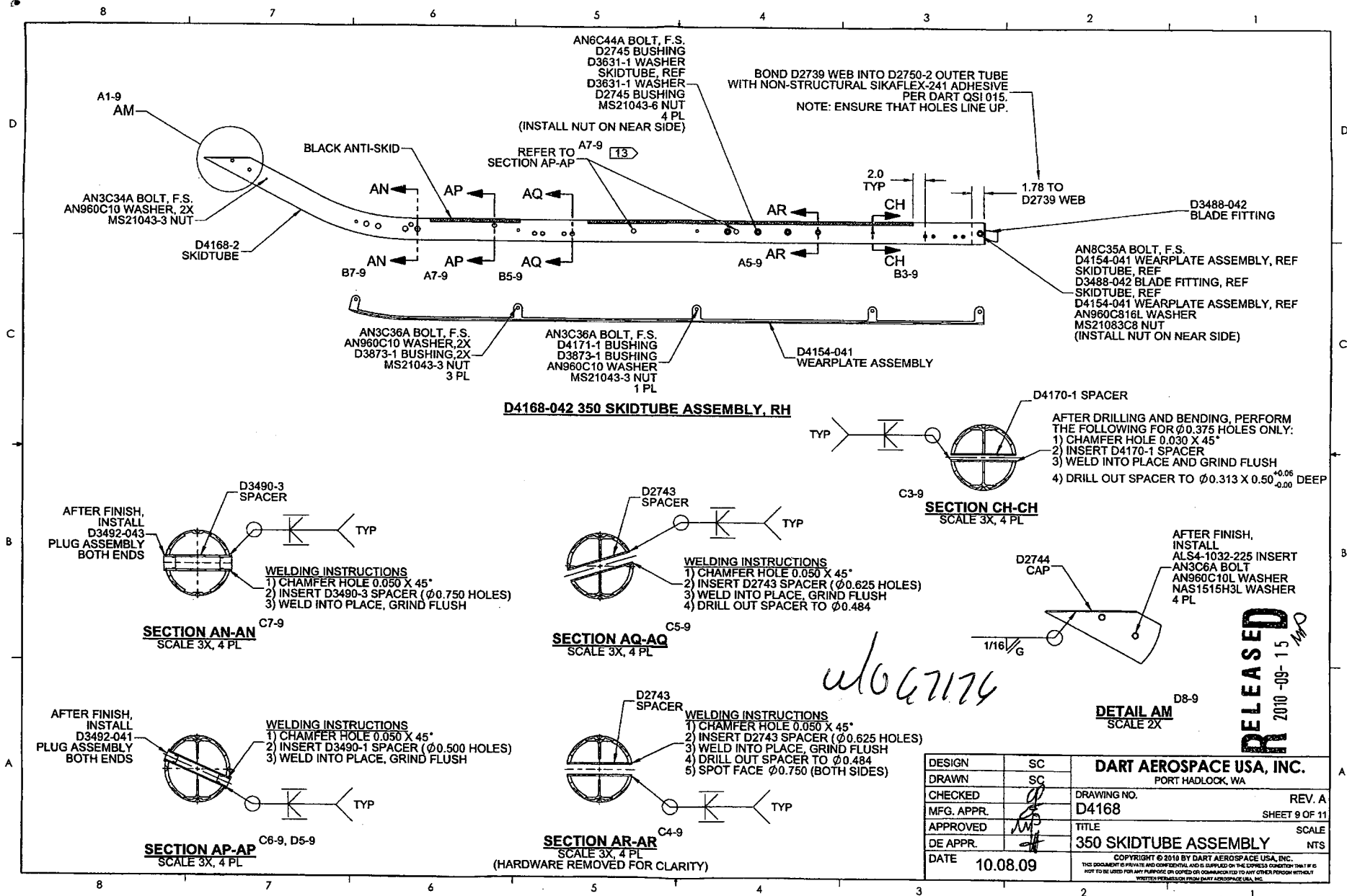
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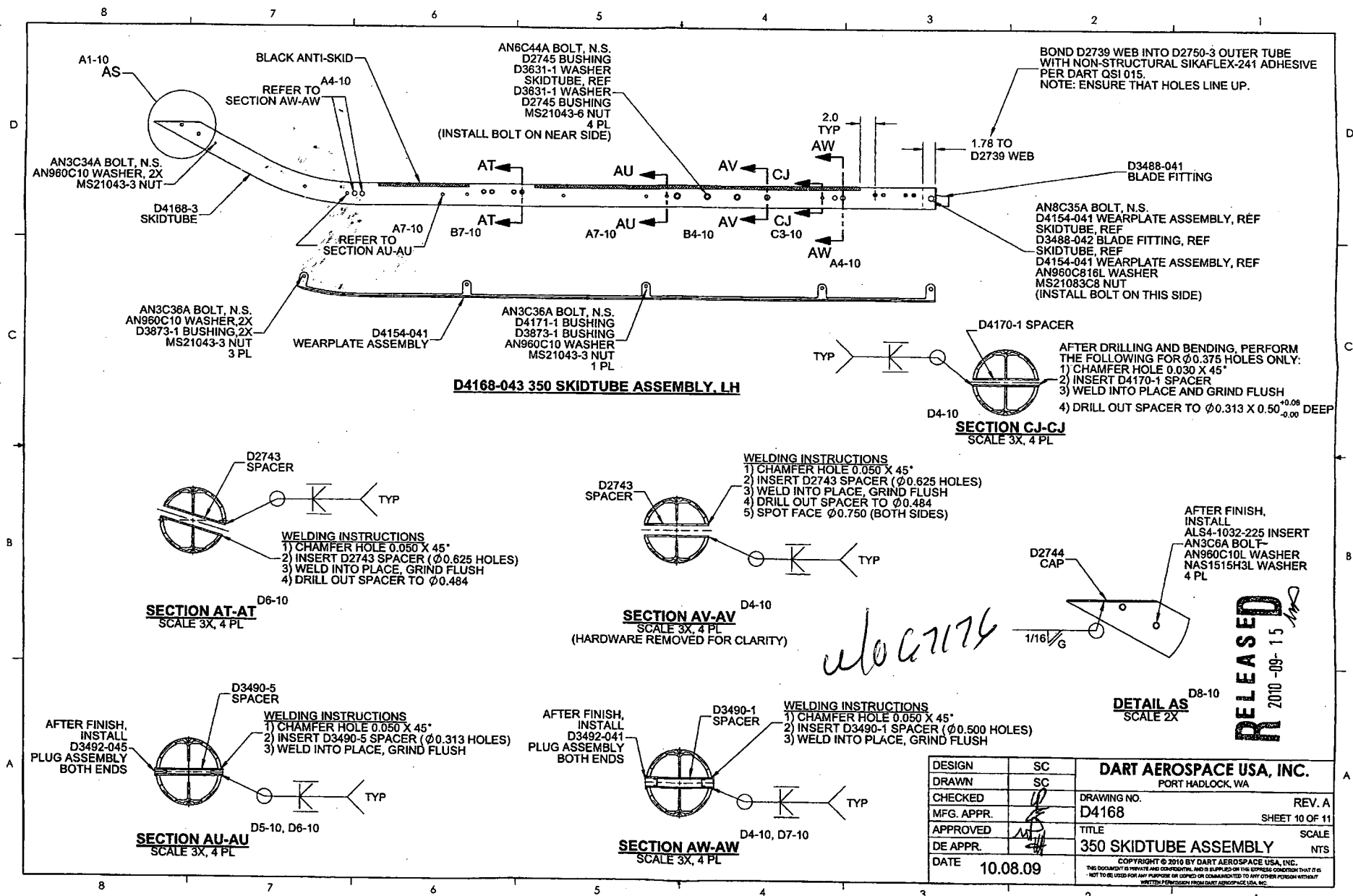
W/O:		WORK ORDER CHANGES						
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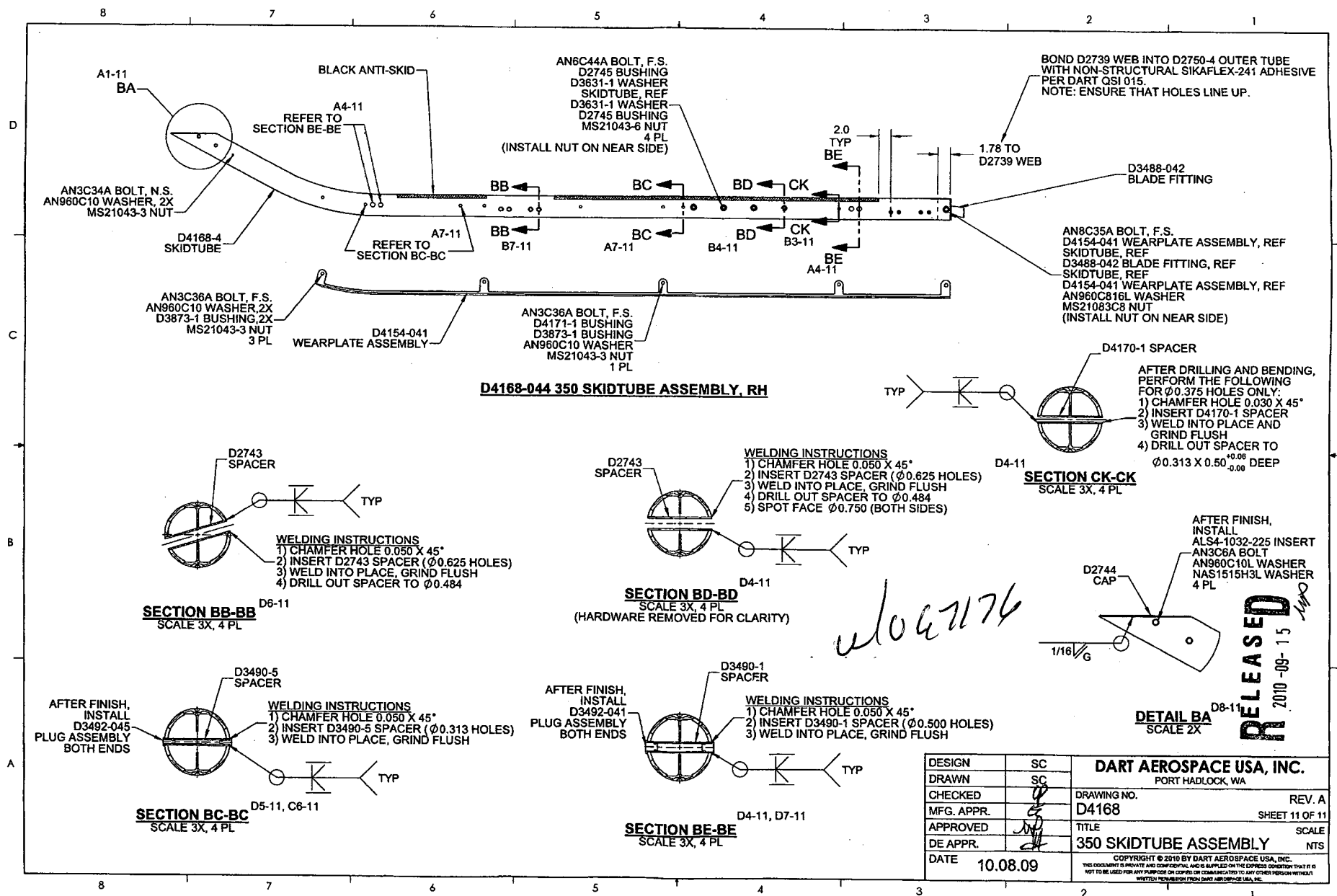
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1062176

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2010-09-15

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MFG. APPR.		D4168	SHEET 11 OF 11
APPROVED		TITLE	SCALE
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 243

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barkley Elliott
Job number: ~~64450~~ 64453
Part number: J350-636-016
Description: 350 skid tube
Welding Process: Tig[☒] Mig[]
Base material: Aluminum
Current: AC[] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier J. C. Lewis Date of Test Coupon 11-01-18

Welder Barkley Elliott Date of Test Coupon 11-01-18

The above named individual is qualified in accordance with AWS D17.1.2001 to weld